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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,748	07/20/2001	Timothy David Forrester	42252-1011	2517

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EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT	PAPER NUMBER
2686	8

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,748

Applicant(s)

FORRESTER

Examiner

Joy K Contee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1,3-5,7 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Nohara et al. (Nohara), U.S. Patent No. 6,546,258.

Regarding claim 1, Nohara discloses an antenna system for a wireless communications device, comprising:

a first antenna circuit configured to receive a first communications signal (col. 6, lines 24-30);

a second antenna (i.e., reads on GPS antenna) circuit configured to receive an auxiliary signal (i.e., reads on GPS signal from GPS satellite)(col. 6, lines 32-34); and

a processor performing the steps of:

receiving information indicative of the auxiliary signal (i.e., reads on GPS signals from GPS satellite), inherently determining, using the information, that a second communications signal is preferable (i.e., inherent based on GPS receiving circuit decoding a reception signal) to the first communications signal,

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and directing that one of the first antenna circuit and the second antenna circuit (i.e., reads on at least the GPS antenna 30, see Fig. 1) be configured (i.e., reads on as determined by GPS receiver circuit 31, see Fig. 1) to receive the second communications signal (col. 7, lines 1-9).

Regarding claim 3, Nohara discloses the antenna system according to claim 1, wherein the second antenna circuit is configured to receive an auxiliary signal (i.e., reads on GPS signal) on a different channel (i.e., inherent that GPS signals are communicated on a different channel) than the first communications signal (i.e., reads on RF signal from base station) (col. 6, lines 19-38).

Regarding claim 4, Nohara discloses the antenna system according to claim 1, wherein the second antenna circuit is configured to receive an auxiliary signal (i.e., reads on GPS signal) on a different band (i.e., inherent that GPS signals are communicated on a different frequency band) than the first communications signal (i.e., reads on RF signal from base station) (col. 6, lines 19-38).

Regarding claim 5, Nohara discloses the antenna system according to claim 1, wherein the second antenna circuit is configured to receive an auxiliary signal on a different mode (i.e., reads on and inherent GPS mode) than the first communications signal (col. 6, lines 19-38).

Regarding claim 7, Nohara discloses the antenna system according to claim 1, wherein the processor includes the step of directing that the second antenna circuit (i.e., reads on at least the GPS antenna 30, see Fig. 1) be configured (i.e., reads on as

determined by GPS receiver circuit 31, see Fig. 1) to receive the second communications signal (col. 7, lines 1-9).

Regarding claim 12, Nohara discloses the antenna system according to claim 11, wherein the second auxiliary antenna is adapted to receive GPS band signals (col. 7, lines 1-9).

3. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Lindemann et al. (Lindemann), U.S. Patent No. 6,553,210.

Regarding claim 15, Lindemann discloses an auxiliary reception system, comprising:

an auxiliary antenna (i.e., reads on shared antenna) adapted to receive at least one of global positioning system (GPS) band signals, first communications band signals and second communications band signals (col. 3, lines 11-58); and

a main controller coupled to the auxiliary antenna, the main controller receiving the at least one of the GPS band signals, the first communications band signals and the second communications band signals from the auxiliary antenna, the main controller being adapted to scan through at least one of channels, bands and modes of wireless communications (inherently scans through frequency bands since Lindemann teaches a radiotransceiver which transmits and receives signals in a first radio frequency band simultaneously with a radio receiver receiving a second radio signal having a frequency very near the first radio frequency band using a single antenna) via the auxiliary antenna (col. 15, lines 3-8).

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4. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Emmons, Jr., U.S. Patent No. 6,275,475.

Regarding claim 16, Emmons discloses a method for providing auxiliary reception in a wireless communications system, comprising the steps of:

receiving signals via a main antenna (i.e., reads on first antenna 310 in conjunction with first transceiver 320, see Fig. 3) at a particular channel, band or mode; receiving auxiliary via an auxiliary antenna signals (i.e., reads on second antenna 350 in conjunction with second transceiver 340, see Fig. 3) at different channels, bands or modes (col. 8, lines 20-30);

evaluating received auxiliary signals via a main controller (i.e., 330) (col. 8, lines 1-24); and

handing off the main antenna from the particular channel, band or mode to a different channel, band or mode, the different channel, band or mode having been evaluated by the main controller (col. 8, line 58 to col. 9, line 21).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 6, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nohara, in view of Matero, U.S. Patent No. 6,215,988.

Regarding claim 2, Nohara discloses the antenna system according to claim 1, but fails to show, wherein the first antenna circuit is configured to receive the first communications signal from a first base station, and wherein the second antenna circuit is configured to receive the auxiliary signal from a second base station.

In a similar field of endeavor, Matero discloses wherein the first antenna circuit (see Fig. 3, #12a) is configured to receive the first communications signal from a first base station (i.e., reads on first digital system or an analog system, e.g., GSM or DAMPS), and wherein the second antenna circuit (See Fig. 3, #12b) is configured to receive the auxiliary signal from a second base station (i.e., reads on second digital system, e.g., DCS1800 or DCS1900) (col. 5, line 15 to col. 6, line 11).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Nohara to include a second base station for delivering signals to the auxiliary antenna for the purpose of expanding the reception and communication capabilities beyond GPS signal reception.

Regarding claim 6, Nohara discloses the limitations of claim 1. Nohara fails to explicitly disclose the antenna system wherein the processor includes the step of directing that the first antenna circuit be configured to receive the second communications signal.

In a similar field of endeavor, Matero discloses the antenna system wherein the processor includes the step of directing that the first antenna circuit (i.e., reads on dual band antenna, see Fig. 1, #12) be configured to receive the second communications signal (col. 3, lines 32-47 and col. 5, lines 15-18).

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At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Nohara to include a single antenna for the purpose of receiving signals from a second base station for the purpose of expanding the reception and communication capabilities.

Regarding claim 8, Nohara discloses the antenna system according to claim 1, but fails to disclose the dual band antenna.

Matero provides evidence of a dual band antenna (col. 5, lines 15-18).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Nohara to include a single antenna for the purpose of receiving signals from a second base station for the purpose of expanding the reception and communication capabilities.

Regarding claim 13, Nohara discloses the antenna system according to claim 1, but fails to disclose wherein the first antenna circuit includes a selector module, and wherein the second antenna circuit includes the selector module, the selector module being coupled to the main controller.

Matero discloses wherein the first antenna circuit includes a selector module, and wherein the second antenna circuit includes the selector module, the selector module being coupled to the main controller (col. 4, lines 45-60, see Fig. 3).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Nohara to include a selector module for the purpose of band switching when the respective signal is received at the dual mode antenna circuit.

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7. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nohara, in view of Burdick et al., (Burdick), U.S. Patent No. 6,424,820..

Regarding claim 9, Nohara discloses the antenna system according to claim 1, but fails to disclose wherein the second antenna is disposed approximately orthogonally to the first antenna.

Burdick discloses wherein a second antenna is disposed approximately orthogonally to the first antenna (col. 32, lines 33-43 and col. 34, lines 1-15).

At the time of the invention it would have been obvious to one of ordinary skill in the art to that Nohara would have used orthogonal spacing between the two antennas since it is known in this coupling is known in the art as taught by Burdick.

Regarding claim 10, Nohara discloses the antenna system according to claim 1, wherein the second antenna is a diversity antenna.

Burdick discloses wherein the second antenna is a diversity antenna (col. 3, lines 22-42 and col. 34, lines 1-15).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Nohara to include a diversity antenna for the purpose of compensating for "non-optimal" coupling that may result from user body movement as taught by Burdick (col. 33, lines 21-24).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nohara, in view of Matero, in further view of Burdick.

Regarding claim 14, Nohara discloses the antenna system according to claim 13, but fails to disclose wherein the selector module include a single phase locked loop integrated circuit (PLL IC) for use by the second antenna circuit, and

wherein the selector module includes a dual PLL IC for use by the second antenna circuit and the first antenna circuit (col. 23, lines 21-42).

Matero discloses wherein the selector module include a single phase locked loop integrated circuit (PLL IC) for use by the second antenna circuit (col. 4, lines 45-60) but fails to disclose wherein the selector module includes a dual PLL IC for use by the second antenna circuit and the first antenna circuit.

Burdick compensates for the this deficiency wherein the selector module includes a dual PLL IC for use by the second antenna circuit and the first antenna circuit (col. 23, lines 21-42).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Nohara as modified by Matero to include a a single PLL and dual PLL for the purpose of generating independent transmit and receive local osciallator singal to the receiver and transmitter.

9. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmons, Jr, in view of Longaker.

Regarding claim 17, Emmons discloses the method according to claim 16. Emmons, Jr, fails to explicitly disclose the steps of: receiving global positioning system (GPS) band signals via the auxiliary antenna; and determining location information from the received GPS band signals.

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In a similar field of endeavor, Longaker suggests receiving global positioning system (GPS) band signals via the auxiliary antenna; and determining location information from the received GPS band signals col. 3, lines 40-55).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Emmons, Jr. to include transmitting location information derived from GPS signals for the purpose of letting other base stations know its location.

Regarding claim 18, Emmons, Jr. discloses the method according to claim 17, but fails to explicitly disclose transmitting the determined location information via the main antenna.

In a similar field of endeavor, Longaker suggests that the an auxiliary signal transmitter provides auxiliary or augmenting signals. Said auxiliary transmitter is located in a stable platform with a GPS receiver (see Fig. 3 and col. 3, line 56 to col., 4, line 17)

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Emmons, Jr. to include transmitting location information derived from GPS signals for the purpose of letting other base stations know its location.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1 (2-14) and thus its dependents 2-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,4 and 12 of copending Application No. 09/902,035, Pub. No. 2003/001313469. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-18 of the instant application encompass the scope of claims 1,4 and 12 of 09/902,035.

Claims 1-14 of the instant application do not specifically claim a switching module coupled to the first and second antennas, wherein the switching module is adapted to couple the transmitter/receiver modules to one of the first or the second antenna as a function of a transmission characteristic of the first antenna and the second antenna. In comparison, independent claim 1 of the instant application claims a processor performing steps of: receiving information indicative of the auxiliary signal, determining, using the information, that a second communications signal is preferable to the first communications signal, and directing that one of the first antenna circuit and the second antenna circuit be configured to receive the second communications signal. The processor's performing steps are analogous to the switching module in 09/902,035, since both make a determination that a second signal is preferable and direct (or switch) one of a first and second antenna circuit to be inherently configured to receive the

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preferable signal (i.e., reads on switching as a function of a reception characteristic of a first and the second antenna).

Omission of element and its function in combination is obvious expedient if remaining elements perform same functions as before. In re KARLSON (CCPA) 136 USPQ 184 (1963).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Douglas et al., U.S. Patent No. 6,505,054, discloses an integrated antenna assembly.

Forrester, U.S. Patent No. 6,667,723, discloses a system and method for a GPS enabled antenna.

Greving, U.S. Patent No. 6,323,806, discloses an antenna system and method for operating an antenna system.

Basile, U.S. Patent No. 6,298,243, discloses a combined GPS and Cellular band mobile antenna

Sutton et al., U.S. Patent No. 6,600,931, discloses an antenna switch assembly and associated method for radio communication station.

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Suzuki, U.S. Patent No. 6,208,861, discloses a mobile terminal with GPS function.

Standke et al., U.S. Patent No. 6,694,150, discloses a multiple band wireless telephone with multiple antennas.

Rapeli, U.S. Patent No. 6,510,313, discloses a wireless communications device.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K Contee whose telephone number is 703-308-0149. The examiner can normally be reached on 5:30 a.m. to 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703-305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Joy Contee

February 20, 2004


CHARLES APPIAH
PRIMARY EXAMINER